

## Phase-locked Loop with Analog Phase Rotator

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### 5 ABSTRACT OF THE DISCLOSURE

A phase-locked loop includes a phase detector which receives an input signal and a first internal periodic signal and provides a phase signal indicative of a phase difference between the input signal and the internal signal. 10 A rotator then receives the phase signal and provides first and second periodic signals each having a frequency that is a function of the phase difference, the first and second periodic signals being 90 degrees out of phase with each other. An interpolator circuit then linearly combines the 15 first and second periodic signals with third and fourth periodic signals to provide the first internal periodic signal. The interpolator circuit may provide a second internal periodic signal that is 90 degrees out of phase relative to the first internal periodic signal. The phase-locked loop may further include a low-pass filter provided 20 between the phase detector and the rotator.